



- NOTES:
- THIS IS A ULTRA-HIGH VACUUM CHAMBER (UHV).
 - WHEN MACHINING VACUUM PARTS, USE OF SILICONE AND SULPHUR-BASED CUTTING FLUIDS IS PROHIBITED. USE ONE OF THE FOLLOWING:
A) CIMCOOL 5 STAR 49
B) TRIM SOL
 - ELECTROPOLISHING IS NEEDED BEFORE WELDING. PRIOR TO ELECTROPOLISHING, THE CHAMBER NEEDS TO GO THROUGH A MULTIPLE STEP CLEANING PROCESS INVOLVING DEGREASING, WASHING AND DRY NITROGEN BLOWDOWN. THE CHAMBER VACUUM SIDE SURFACE ROUGHNESS SHALL BE BETTER THAN 63 MICROINCH RMS AFTER ELECTROPOLISHING.
 - WELDS SHALL BE GAS TUNGSTEN ARC (GTAW) OR TUNGSTEN INERT GAS (TIG) ON VACUUM SIDE OF JOINTS.
 - VACUUM CHAMBER SHALL BE LEAK TESTED USING A MASS SPECTROMETER WITH MINIMUM SENSITIVITY FOR HELIUM OF 2×10^{-10} STANDARD CC/SEC PER LEAK METER DIVISION, SUCH AS:
ALCATEL ASM-110TCL
VARIAN NCR 925 OR 936
VEECO MS-9, MS-90 OR MS-18
DuPONT CEC 24-120B
CALIBRATION OF THE LEAK DETECTOR SENSITIVITY SHALL BE PERFORMED JUST PRIOR TO TESTING.
FINAL TEST WILL CONSIST OF SURROUNDING THE CHAMBER (BAGGING) WITH HELIUM. THE CHAMBER WILL BE REJECTED IF A 2% DEFLECTION IN THE MOST SENSITIVE RANGE OF LEAK DETECTOR IS SENSED WITHIN 1 MIN.
 - KEEP THE PART CLEAN AND WRAP FOR UHV PACKING WITH ALUMINUM FOIL.
 - ALL DIMENSIONS IN [] ARE MILLIMETERS AND ARE FOR REFERENCE ONLY.

6	TUBING 1.50 O.D. x .06 WALL	STAINLESS STEEL 304	1
5	TUBING 6.00 O.D. x .06 WALL	STAINLESS STEEL 304	3
4	FLANGE, 8" O.D. ROTATABLE	MDC #100031	2
3	FLANGE, 8" O.D. NON-ROTATABLE	MDC #110031	1
2	FLANGE, 2.75" O.D. NON-ROTATABLE	MDC #110014	1
1	FLANGE, 8.00" O.D. ROTATABLE TAPPED	MDC #120031	1

ITEM	QUANTITY	DESCRIPTION	REVISIONS	MATERIAL / SPEC	REV
PARTS LIST					
A15009					
ARGONNE NATIONAL LABORATORY					
ADVANCED PHOTON SOURCE					
DIAGNOSTIC SCREEN ASSY					
VACUUM CHAMBER WELDMENT					
SEE B.O.M.					